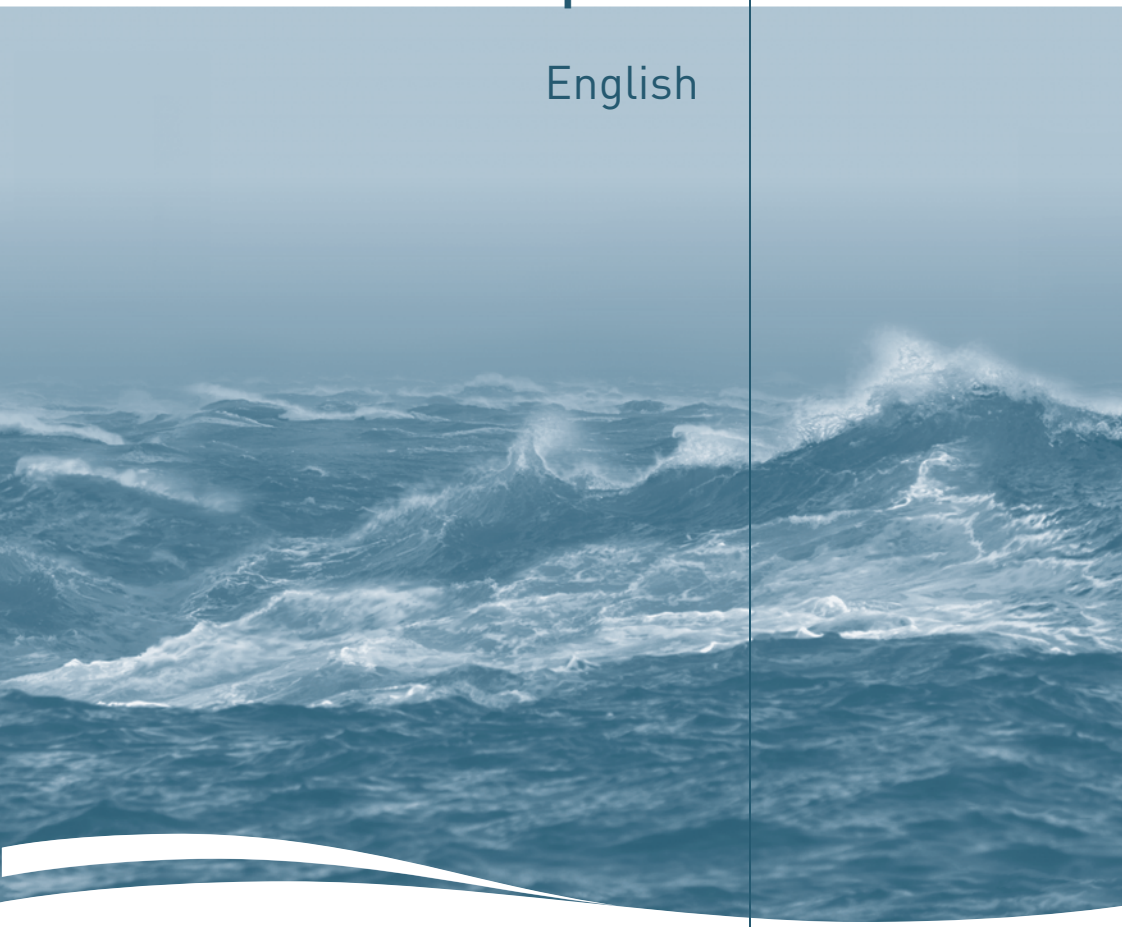
ocean SIGNAL

User Manual

safe SEA V100

VHF GMDSS Handheld Radiotelephone

English



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BASIC OPERATION

- **In emergency ensure the yellow Lithium primary battery is fitted.**
- **Before operation break off the red security tag from the battery.**
- **Turn on by pressing the ⏻☼ key**
- **The radio will turn on with the distress and calling channel 16 already selected**
- **Use the ▲ and ▼ keys to select the required channel**
- **Use the VOL key followed by the ▲ and ▼ keys to adjust the speaker volume**
- **Use the SQ key followed by the ▲ and ▼ keys to adjust the squelch (muting) level**
- **Use the PTT key to transmit**

To transmit a MAYDAY call the following procedure should be followed.

Ensure the radio is turned on, channel 16 is selected and the PTT key is pressed. Announce the following clearly into the radio:

MAYDAY - MAYDAY - MAYDAY

"This is [Ship's Name] - This is [Ship's Name] - This is [Ship's Name]"

"MAYDAY [Ship's Name or Call Sign]"

"Position..... [LAT and LON or description]"

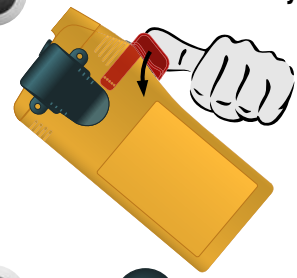
"Nature of Distress is ..... [State the aid required]"

"The Number of Persons on board is... [Followed by any useful information]"

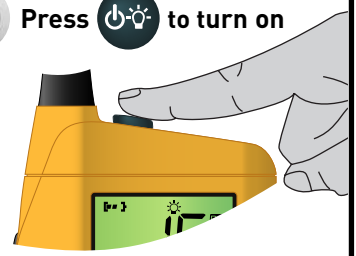
"Over"

ACTIVATE IN EMERGENCY

1 Break seal on battery



2 Press ⏻☼ to turn on



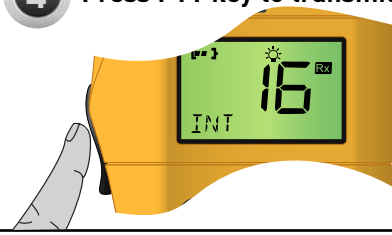
3 Adjust radio (if required)

Select Channel ▲ OR ▼

Adjust Volume VOL MENU → ▲ OR ▼

Adjust Squelch SQ ENT → ▲ OR ▼

4 Press PTT key to transmit



DEACTIVATE

⏻☼ **PRESS AND HOLD**

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1 GENERAL

The V100 is supplied in the following packages:

GMDSS use only consisting of: V100 radio, antenna, lanyard (attached), Lithium emergency battery, mounting bracket, user manual.

GMDSS and daily use consisting of: V100 radio, antenna, lanyard (attached), Lithium emergency battery, Lithium Polymer rechargeable battery, charger, mains adaptor, supply lead, user manual.

The V100 is also available with a waterproof accessory socket for the connection of accessories such as headsets, helmets, speaker microphones, etc. Ocean Signal is not able to supply these accessories directly, but will provide information to your chosen supplier to allow suitable interfaces to be developed.

1.1 Exposure to RF Electromagnetic Energy

This product has been evaluated for compliance with the FCC RF exposure limits given in CFR 47 part 1.307(b) at a distance of greater than 2.5cm.

1.2 Warnings

Do not operate without the antenna attached or with a damaged antenna.

Always operate with the antenna at least 2.5cm (1inch) away from your head and do not transmit for more than 50% of the total time the radio is used.

Use of the radio in the body worn configuration with accessories is limited to 'Occupational Use' only. Do not transmit for more than 50% of the total time the radio is used.

The use of this radio may be covered by licensing requirements in the country of use. Please check with your local regulatory body before use.

Do not attempt to short circuit, burn or rupture the Lithium batteries. Use only the recommended charger for the RB5V. See Section 5.2 for further details.

1.3 Installation

Unpack the contents of the box and check against the label fixed inside the box lid that the contents are complete.

In the 'GMDSS pack', the SafeSea V100 is provided with a simple wall mounted cradle. In the 'Full pack', the charger provided is used for storage of the radio. The cradle and charger can be wall mounted using the two countersunk self-tapping screws provided. Additionally the charger may be desktop mounted.

Ensure that the radio is mounted in accordance with IMO guidelines where applicable.

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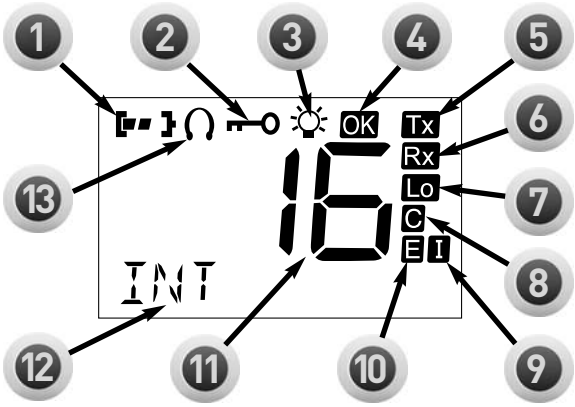
2 V100 OVERVIEW

1. Antenna Socket
2. Accessory socket (Option)
3. ON/OFF and LIGHTS key
4. Volume select key
5. Channel 16 select key
6. Squelch select key
7. Hi/Lo Power key
8. Speaker and Microphone
9. Scan key
10. Dual Watch (D/W) key
11. Channel Up/Down keys
12. Press to Talk (PTT) key



1. Battery Status
2. Keypad Locked
3. Lights Active
4. Confirmation
5. Transmit
6. Receive
7. Low Power (Tx)
8. Call Channel
9. Scan Inhibit
10. Memory Scan Enable
11. Channel number
12. Additional Information
13. Accessory Fitted

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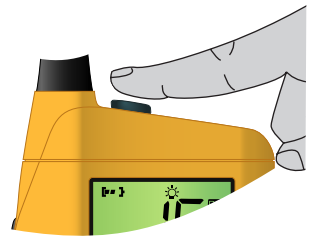
3 OPERATION

Ensure the radio is fitted with a charged battery before commencing use. The primary battery will have the tab intact indicating that it has full capacity.

3.1 Switching On

Press the ⏻☼ key to turn the SafeSea™ V100 on. The LCD will start showing information, with channel 16 as the selected channel.



PRESS = ON

PRESS & HOLD = OFF

(3 secs)

3.2 Switching Off

Press and hold the ⏻☼ key for 3 seconds to turn the radio off. The display will show a 3 second countdown, then the LCD will go blank.

3.3 Channel Selection

Pressing the ▲ or ▼ keys will scroll through the available channels. Release the key when the required channel is displayed. (See Section 6.4 for the available channels).

3.4 Channel 16 selection

Pressing the **16** key will select channel 16 at high power. Pressing the **16** key again will revert to the previous channel.

Pressing and holding the **16** key until a double beep is heard will select the designated CALL Channel. (See Section 4 for setting the CALL channel.

Pressing and holding the **16** key until a triple beep is heard will set the the current channel as the CALL Channel. (See Section 4 for setting the CALL channel.

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3.5 Transmitting

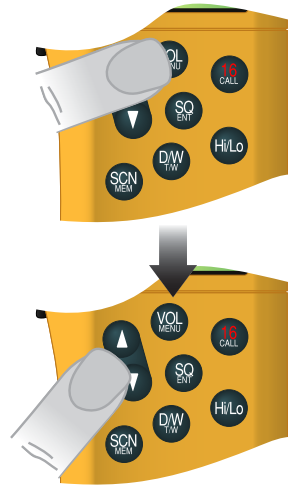
Press the **PTT** key on the side of the radio to transmit. The microphone is located under the speaker grille. Release the key when you have finished talking.

It is good practice to keep transmissions as short as possible. This will minimise battery discharge and ensure that you are not interfering with other users of the channel.

Ensure the correct channel is selected and that there is no other transmission audible before pressing the PTT to avoid interference with other users.

3.6 Volume Adjustment

To adjust the volume level of the speaker, press the **VOL** key. The ▲ or ▼ keys may now be used to adjust the volume Up or Down respectively. After two seconds of inactivity the operation of the selection keys will revert to channel change.



3.7 Squelch Adjustment

To adjust the Squelch level, press the **SQ** key. The ▲ or ▼ keys may now be used to adjust the Squelch Up or Down respectively. After two seconds of inactivity the operation of the selection keys will revert to channel change.

The squelch should be adjusted to a level where background noise and weak, unreadable signals do not open the mute.

Experience will show what the best setting is for the local environment.

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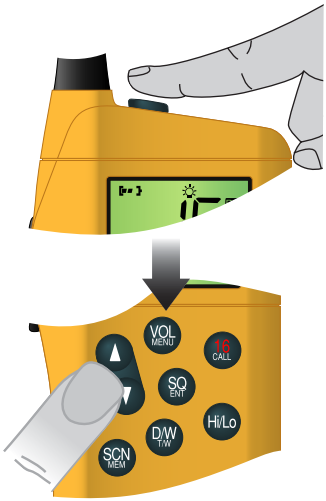
To monitor a channel without adjusting squelch settings, press and hold the **SQ** key until a double beep is heard.

The squelch will remain open while the key remains pressed and will stay on for the time selected in the Menu after the key is released. This mode may also be disabled in the Menu.



3.8 Lights Adjustment

To turn the lights on or off and adjust the level, press the key. The ▲ or ▼ keys may now be used to adjust the backlighting level from off through five levels to maximum. After two seconds of inactivity the operation of the selection keys will revert to channel change.

The lights will stay on for a period of 10sec (default) or as set in the menu. Pressing any key will reactivate the lights.

3.9 Dual Watch

Press the **D/W** key to initiate the Dual Watch mode. The radio will now start sampling the selected working channel and channel 16 for signals.

Pressing the **D/W** or ▼ key will terminate Dual Watch.

There will be no action if the radio is on channel 16 when the D/W key is pressed.

3.10 Tri-Watch

Pressing and holding the **D/W** key for 1 second will initiate a triple channel watch between the selected working channel, the user programmed Call channel and channel 16.

Pressing the **D/W** or ▼ key will terminate Tri-Watch.

A working channel and call channel must have been entered before this key press will have any action.

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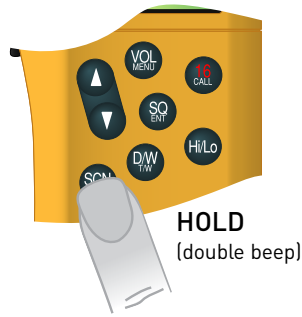
3.11 Scan

Press and hold the **SCN** key until a double beep is heard. The radio will now start scanning all the channels in the radio for a signal.

To exit scan mode, press the **SCN** or ▼ key.

Often a channel will appear to exhibit a permanent signal or is frequently used for traffic that is of no interest. In this case when the scan has stopped on the channel, pressing and holding the **SCN** key until the double beep is heard will inhibit the channel from being scanned.



3.12 Memory Scan

To enter the Memory Scan mode, press the **SCN** key. The radio will now start scanning only those channels that are entered into the scan memory for a signal.

If there are no channels already entered, pressing this key will have no effect.

To exit the Memory Scan mode, press the **SCN** or ▼ key.

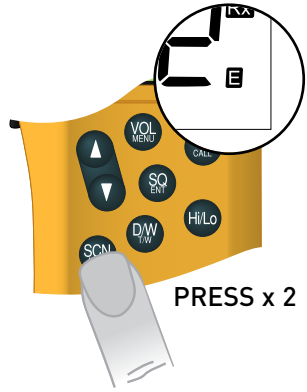
3.13 Scan advance

In any of the scanning modes, if the radio has stopped on a busy channel pressing the ▲ key will recommence scanning. NOTE: If the received signal on a busy channel ceases, then the radio will automatically recommence scanning after the set Scan Dwell Time (see section 4).

3.14 Setting Scan Channels

In the normal radio mode, it is possible to set scanning options for each channel.

To enter channels into the scan memory, select the required channel and double press the **SCN** key. The E legend will appear on the LCD to indicate this channel is in the scan memory. If the channel was already marked as a Memory Scan channel, this operation will remove it from the scan memory and the E legend will disappear.



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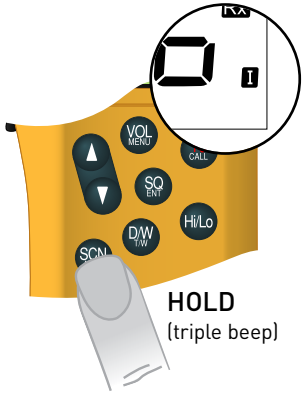
To inhibit a channel from the all scan memory, press and hold the **SCN** key until a triple beep is heard. This will inhibit the channel from scanning and the I legend will appear on the LCD.

If the channel was already inhibited as a scan channel, this operation will re-enable it and the I legend will disappear.



3.15 Hi/Lo

The **HI/LO** key will toggle the transmit power from high to low. The Lo legend will be shown when low power (1 Watt) is selected.

3.16 Key Lock

Press and hold the **HI/LO** key until a double beep is heard to lock the keypad against accidental use. Press and hold **HI/LO** again to unlock the keypad (the keylock will be disabled when the radio is turned off).

NOTE: The default setting for the key lock is off, to enable key lock function see Section 4.

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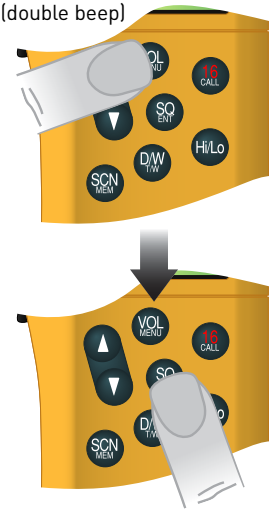
4 MENU MODE

In the menu mode the following options are available:

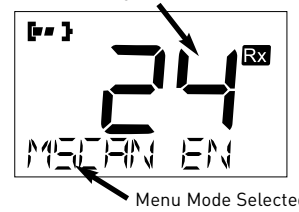
- Memory Scan Enable
- All Scan Inhibit
- Key Lock
- Key Beep Disable
- Scan Dwell Time
- Light Dwell Time
- Squelch Override Defeat
- Squelch Override Time
- Calling Channel Select
- Last Used Channel Enable
- Reset
- Serial number
- Software Issue.

HOLD
(double beep)



To enter the Menu Mode, press and hold the **MENU (VOL)** key until a double beep is heard.

Current Setting/Value



Once in the Menu mode, use the ▲ or ▼ keys to scroll through the options listed above. The menu option will be displayed in the additional area of the LCD screen.

When the desired option is selected, press the **ENT (SQ)** key to enable adjusting the setting or value, shown in the channel number.

Use the ▲ or ▼ keys to adjust the value.

Press the **ENT (SQ)** key to enter the new value.

Press the **16** or **MENU (VOL)** key to exit Menu mode.

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4.1 Individual Menu Modes

Mem Scan Enable (MSCAN EN)
In this Menu mode the channels that are marked with a ✓ for Memory Scan are shown. Any number of channels may be so marked.

All Channel Scan Inhibit (ASCAN INH)
In this Menu mode the channels will be shown for marking as inhibited (or for re-enabling) for All Channel Scan. Any number of channels can be so marked.

Key Lock (KEY LOCK)
This Menu mode allows the user to toggle the key lock functionality On or Off.

Key Beep Disable (KEY BEEP)
This Menu mode allows the user to toggle the first key beep On or Off. Note that the second and third beeps remain active.

Scan Dwell Time (SCAN dWEL)
This Menu mode allows selection of the dwell time in Scanning that the radio stays on the channel after the received signal has gone away. The value shown is in seconds.

Light Dwell Time (LITE dWEL)
This menu mode allows selection of the time that the lights stay on after the last key press. The value shown is in seconds.

Squelch Override (SQ dEFEAT)
The Menu mode option allows the user to enable or disable the squelch override mode.

Squelch Override Time (SQ TIMER)
This option allows the time the squelch override is open. It can be adjusted from 0 to 10seconds. Select the value of 0 seconds to only open the squelch while the key is depressed.

Calling Channel Select (CALL CHAN)
This Menu mode allows selection of the Calling channel. This is the channel that the 16 key uses to toggle between channels.

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Last Used Channel enable (LAST CHAN)

This menu mode sets the radio to use the last used channel when it is turned on. The Default is Off, in which case channel 16 is the default channel on turn on..

Reset (RESET)

This Menu Mode will clear all user settings and return them to the factory defaults.

Serial number (SERIAL NO)

This Menu Mode displays the radios serial number. The value cannot be changed by the user.

SOFTWARE (SOFTWARE)

This Menu mode displays the current software version number. The value cannot be changed by the user.

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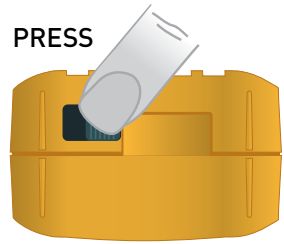
5 BATTERIES

Always ensure that the correct type of battery is fitted before operating your radio. There are two types of battery available:

- The **RB5V** Lithium Polymer rechargeable battery is suitable for normal everyday use of the radio. This battery should only be charged in the recommended charger.
- The **LB4V** Lithium primary battery is for use in emergency only. This battery is not rechargeable and is protected from accidental use by a break-off tab. The LB4V is easily identifiable because of its bright yellow colour.
- A test battery, **TB6V**, is also available. This battery is intended only for the routine testing of the radios in situations where a rechargeable battery is not required.

5.1 Battery Fitting and Removal



To remove the battery, press the grey button on the base of the radio inwards. This will release the battery clip and allow the battery to be removed.

To fit the battery, push the top of the battery into the radio, before pressing it home at the bottom. Ensure that the grey button has locked the battery in place.

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5.2 Warnings

- Do not attempt to charge the LB4V primary battery or the TB6V test battery
- Do not short circuit the battery terminals
- Do not incinerate batteries
- Do not attempt to puncture or dismantle batteries
- Avoid exposing batteries to direct sunlight or temperatures below -20°C (-4°F) or above 60°C (140°F)
- In case of exposure to the cell contents, wash the affected area thoroughly and seek medical attention.

Failure to follow these warnings may result in the battery exploding or catching fire
.
Extreme temperature caused by the failure to observe the above warnings may result in the battery exploding or catching fire.

Dispose of batteries in a responsible manner. National or local regulations on battery disposal may apply including restricting the disposal of batteries in domestic refuse.

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5.3 Charging

The charger will accommodate either the RB5V battery by itself or the V100 fitted with the battery. It is possible to store the V100 in the charger with the LB4V fitted, without the charger actually operating.

To release the battery or radio from the charger, push the grey paddle lever on the right hand side of the charger to the left.

Always use the recommended charger and mains adaptor when charging the RB5V battery pack. The charger may also be connected to a DC supply of between 10.8V and 15.6V (12 Volt battery system)

Always make sure the battery (or radio with battery inserted) is dry before placing it into the charger. The charger is not rated as waterproof.

Make sure the charger is already powered up. The **GREEN** power LED will be lit. Place the radio into the charger base and ensure it locks in place. The **RED** status LED will start flashing to indicate the battery is charging. On completion of the charge, the **RED** LED will stop flashing and be permanently illuminated.

If the battery is faulty or is failing to make contact, then the LED will not change to **RED**. Check that the charging contacts on the battery are clean and retry. If the **RED** LED still fails to light, this indicates that the battery is faulty and needs replacing.

It is not recommended to transmit with the V100 while it is in the charger.

The recommended temperature range for charging the battery is 0ºC(32ºF) to 40ºC(104ºF).

The positive wire on the 12V charging lead is marked with a white dashed line.

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6 APPENDIX

6.1 Maintenance and Troubleshooting

The V100 Radiotelephone should not need servicing during its lifetime, with the exception of changing the primary Lithium battery before the marked expiry date. The following procedure is recommended to be carried out on a monthly basis.

Regular cleaning, inspection and testing of the radio is advised – clean any grime or salt residue off the unit with a weak solution of detergent in warm water. Dry radio thoroughly after cleaning. **Never use solvents as this may affect the structural integrity of the plastics used.** Ensure that the battery and charger contacts are clean.

Testing should be carried out every month and should include a brief test transmission to another VHF radiotelephone. The test may be carried out using a spare LB4V, a test battery, TB6V, or using the rechargeable option, RB5V. Do not use the lithium battery provided for emergency use as this will reduce the capacity available in a distress situation.

Where applicable testing should be carried out in accordance with IMO recommendations or national guidelines.

Check the primary battery visually to ensure that the break-off tab is intact and that there are no signs of damage on the battery case. Inspect the radio for signs of damage.

6.2 Transportation / Shipping

The battery packs, LB4V, RB5V and TB6V used with this radio are classed as non-hazardous under the IATA Hazardous Transport Regulations.

LB4V
- The battery should be shipped as category 3090, and packing instruction 968:section II (excepted batteries).
- The radio with its battery should be shipped as category 3091, packing instruction 969 section II (excepted batteries).

RB5V
- The battery should be shipped as category 3480, and packing instruction 965:section II (excepted batteries).
- The radio with its battery should be shipped as category 3481, packing instruction 966 section II (excepted batteries).

TB6V
- There are no packing or shipping restrictions on alkaline batteries, provided that they are adequately protected against short circuits in accordance with Special Provision A164.

For road or sea transport both the LB4V and RB5V batteries may be shipped under Special Provision A188 of the relevant regulations.

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6.3 Specifications

Transmitter

Output Power (High)	2.5Watts
Output Power (Low)	1Watt
Modulation	FM (G3E)
Modulation Designator	16K0G3EJN
Deviation	±3kHz (nom) <±5kHz (peak)
Adjacent channel power	<-70dBc
Spurious emissions	<0.25µW

Receiver

Sensitivity (MUS)	⩽-117dBm
Audio Output Power	0.4 Watts
Adjacent Channel Rejection	>70dB
Intermodulation Rejection	⩾68dB
Spurious Response Rejection	>70dB
Blocking	>90dBµV
Spurious emissions	<2nW

Environmental

Waterproof	1metre / 1hour
Thermal shock	45°C
Drop proof (hard surface)	1metre any side

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6.4 Channels

#	Rx/Tx	I	U	C	#	Rx/Tx	I	U	C
06	156.300	S	S	S	67	156.375	S	S	S
08	156.400	S	S	S	68	156.425	S	S	S
09	156.450	S	S	S	69	156.475	S	S	S
10	156.500	S	S	S	71	156.575	S	S[2]	S
11	156.550	S	S	S	72	156.625	S	S	S
12	156.600	S	S	S	73	156.675	S	S	S
13	156.650	S	S	S	74	156.725	S	S	S
14	156.700	S	S	S	75	156.775	S[1]	S[1]	S[1]
15	156.750	S[1]	S	S[1]	76	156.825	S[1]	S[1]	S[1]
16	156.800	S	S	S	77	156.875	S	S[2]	S
17	156.850	S[1]	S	S[1]					

[1] Low power only

[2] These channels are set to default to Low power. The user may select High power, but they will default back to Low power after each press of the PTT or when the channel is reselected.

Ocean Signal radios are supplied with the International (I) channel set fitted.

Other channels may be available on request, if licensed in the region of use.

S = Simplex Channel

All frequencies are in MHz

In some regions an alternative channel set may be allowed. When available an additional menu item will be present labelled "Locale". Select this option to toggle between the listed regions that channel sets are available for.

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6.5 Accessories

Lithium primary battery For use as an emergency battery, compliant with the GMDSS carriage requirements.	LB4V
Lithium Polymer rechargeable battery Rechargeable battery for everyday use.	RB5V
Test battery Alkaline battery for monthly testing of the V100.	TB6V
Lithium Polymer battery charging kit Includes the RC1V rapid charger for the RB5V, mains adaptor with universal plugs and a 12 Volt supply lead.	721S-00622

6.6 Approvals

The SafeSea™ V100 complies with the requirements of Annex A 1/5.17 of European Directive 96/98/EC as amended, for use onboard ships registered in the European Union.

The SafeSea™ V100 complies with the GMDSS provisions of part 80 of the FCC rules.

Europe	Marine Equipment Directive MED A.1/5.17 IEC61097-12 IEC60945
USA	FCC Approved; FCC ID: XYEV100
IMO Resolutions	A.694(17), MSC.149(77)

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6.6 Limited Warranty

All servicing and repairs on the radio must be carried out by an approved service agent. Please retain the original packaging for your radio. If the radio has to be returned for any reason, the original packaging should be used.

Your SafeSea V100 radiotelephone is warranted against manufacturing defects and workmanship for a period of two years from date of purchase. Ocean Signal Ltd will, a its discretion, repair or replace a faulty product free of charge, including return carriage costs to the owner.

For further assistance, please contact our Technical Service Department:

Email: **service@oceansignal.com**

Accidental damage and misuse or non-approved modifications are not covered by this warranty. This warranty does not affect your statutory rights.

Dealer Stamp:

Date of Purchase:

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